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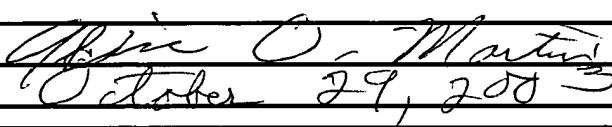
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Total Number of Pages in This Submission

Application Number	09/844,705
Filing Date	April 27, 2001
First Named Inventor	Bosworth, Brad T.
Art Unit	1633
Examiner Name	Woltach, Joseph, T.
Attorney Docket Number	21419-91512
	TECH CENTER 1600/2900

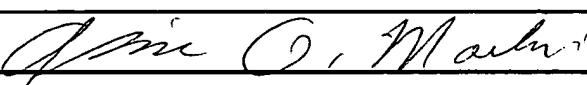
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<b>PTO FORM 1449 (15 sheet)</b> <b>Information Disclosure Statement Mailed</b> <b>November 6, 2001 (4 sheets)</b> <b>17 Publications Cited; A copy of original Postcard</b> <b>Return Postcard</b>		
<small>*Commissioner authorized to charge any fees due to Barnes &amp; Thornburg Deposit Account No. 12-0913.</small>		
<b>SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT</b>		
Firm or Individual name	Alice O. Martin	
Signature		
Date	October 29, 2003	

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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 1633

Attorney Docket: 21419-91512

Applicant: Bosworth & Vögeli

Invention: *METHODS AND COMPOSITIONS TO IDENTIFY SWINE GENETICALLY-RESISTANT TO F18 E. COLI ASSOCIATED DISEASES*

Serial No: 09/844,705

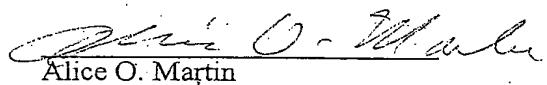
Filed: April 27, 2001

Examiner: N/A

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on November 6, 2001

  
Alice O. Martin

Dated: 11/6/2001

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

This statement is filed in the application identified above pursuant to 37 C.F.R. §

1.56. No representation is intended that a complete search has been made of relevant publications or that no more relevant publications than listed below are available. A copy of each publication is not provided pursuant to 37 C.F.R. 1.98(d) as they were previously submitted to the Office on February 22, 2001 for U.S. Ser. No. 09/443,766 and relied upon for this application. The filing of this Statement shall not be construed to be an admission that the information cited in the Statement is, or is considered to be, material to patentability as defined in § 1.56(b).

PUBLICATIONSU.S. PATENTS

<u>Patent No.</u>	<u>Issue Date</u>	<u>Inventor</u>
5,358,649	October 25, 1994	MacLennan, <i>et al.</i>
5,552,144	September 3, 1996	Samuel, <i>et al.</i>
5,625,124	April 29, 1997	Falk, <i>et al.</i>

FOREIGN PATENTS

<u>Publication No.</u>	<u>Publication Date</u>	<u>Country</u>
WO 86/04604	August 14, 1986	PCT (DENMARK)
WO 94/13811	June 23, 1994	PCT (EUROPE)
WO 96/28967	September 26, 1996	PCT (JAPAN)

**Abstract:** The hyperacute rejection occurring in the transplantation of tissues of a non-primate mammal into a higher primate can be mitigated by transferring foreign genes of a higher primate, which express a sugar transferase, into a non-primate mammal so as to express sugar-chain antigens of the higher primate.

OTHER REFERENCES

BOSWORTH, B.T., *et al.* (1996) "Vaccination With Genetically Modified Shiga-Like Toxin II Prevents Edema Disease in Swine." *Infect and Immun* 64(1): 55-60.

COHNEY, S., *et al.* (1996) "Molecular Cloning of the Gene Coding for Pig  $\alpha 1 \rightarrow 2$  fucosyltransferase." *Immunogenet* 40: 76-79.

DEVEREUX, J., *et al.* (1984) "A Comprehensive Set of Sequence Analysis Programs for the VAX." *Nucl Acids Res* 12(1): 387-395.

FUJII, J., *et al.* (1991) "Identification of a Mutation in Porcine Ryanodine Receptor Associated with Malignant Hyperthermia." *Science* 253: 448-451.

GAFFNEY, R.A., *et al.* (1994) "Effect of Lewis Blood Group Antigen Expression on Bacterial Adherence to COS-1 Cells." *Infect and Immun* 62(7): 3022-3026.

## INFORMATION DISCLOSURE STATEMENT (October 27, 1998)

KELLY, R.J., *et al.* (1994) "Molecular Basis for H Blood Group Deficiency in Bombay ( $O_h$ ) and Para-Bombay Individuals." *Proc Natl Acad Sci* 91: 5843-5847.

MEIJERINK, E., *et al.* (1997) "Two  $\alpha$ (1,2) fucosyltransferase Genes on Porcine Chromosome 6q11 are Closely Linked to the Blood Group Inhibitor (*S*) and *Escherichia coli* F18 Receptor (*ECF18R*) Loci." *Mammal Genome* 8: 736-741.

NAGY, B., *et al.* (1992) "Susceptibility of Porcine Intestine to Pilus-Mediated Adhesion by Some Isolates of Piliated Enterotoxigenic *Escherichia coli* Increases with Age." *Infect and Immun* 60(4): 1285-1294.

VÖGELI, P., *et al.* (1996) "Genes Specifying Receptors for F18 Fimbriated *Escherichia coli*, Causing Oedema Disease and Postweaning Diarrhoea in Pigs, Map to Chromosome 6." *Schweiz Arch Tierheilk* 139(11): 479-484.

VÖGELI, P., *et al.* (1997) "Ein Molekular Test für den Nachweis des *E. coli*-F18-Rezeptors: ein Durchbruch im Kampf gegen Ödemkrankheit und Absetzdurchfall beim Schwein." *Schweiz Arch Tierheilk* 139(11): 479-484.

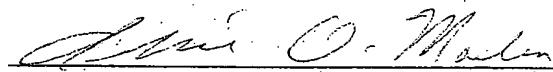
**Abstract:** Oedema disease and post-weaning diarrhoea in swine are associated with the colonization of the intestine with toxicogenic *Escherichia (E.) Coli* bacteria of various serotypes. Colonization depends on specific binding between adhesive fimbriae and receptors on the enterocytes. The demonstration of these receptors allows the identification of susceptible and resistant pigs. Direct sequencing of the  $\alpha$ (1,2) fucosyltransferase gene (FUT1) in swine being either susceptible or resistant to adhesion by F18 fimbriated *E. coli* revealed a mutation at basepair 307 (M307). Analysis of the mutation in Swiss Landrace and Large White families showed close linkage with the locus controlling resistance and susceptibility to *E. coli* F18 adhesion (ECF 18R). The FUT1(M307) mutation is a good marker for selection of *E. coli* of F18 fadhesion resistant animals. The mutation is found with variable frequencies in Duroc, Hampshire and Pietrain pigs as well.

None of the above-cited publications are believed to disclose or suggest the invention recited in the claims of the above-identified application or the priority date of the application is before the publication date. It is therefore believed that the claimed invention is patentably distinguishable over these publications.

Please charge any fees that might be due in connection with this Information Disclosure Statement to our Deposit Account No. 10-0435.

Respectfully submitted,

**BARNES & THORNBURG**



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November 6, 2001

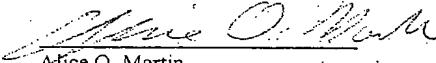
CHDS01 AOM 115127v1

Applicant: Brad Bosworth and Peter Vogeli  
Filing Date: April 27, 2001  
Serial No.: 09/844,705  
Attorney Docket No.: 21419/91512  
Title: METHODS AND COMPOSITIONS TO  
IDENTIFY SWINE GENETICALLY RESISTANT TO  
F18 E. COLI ASSOCIATED DISEASES

The following was sent to United States Patent and  
Trademark Office:

• Information Disclosure Statement

Mailed via Regular Mail on November 6, 2001.



Alice O. Martin  
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U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 21419-91512	SERIAL No. 09/844,705
INFORMATION DISCLOSURE STATEMENT		APPLICANTS Bosworth & Vögeli	
		FILING DATE April 27, 2001	GROUP 1633

U.S. PATENT DOCUMENTS						
*Examiner Initials	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
AA	5,358,649	Oct. 25, 1994	MacLennan, et al.	435	6	Dec. 20, 1991
AB	5,552,144	Sep. 3, 1996	Samuel, et al.	424	236.1	Jan. 10, 1994
AC	5,625,124	Apr. 29, 1997	Falk, et al.	800	2	Jul. 11, 1994
AD						
AE						
AF						
AG						
AH						
AI						
AJ						
AK						

FOREIGN PATENT DOCUMENTS						
	Document Number	Date	Country	Class	Subclass	Translation Yes No
AL	WO 86/04604	Aug. 14, 1986	PCT(DENMARK)			X
AM	WO 94/13811	Jun. 23, 1994	PCT(EUROPE)			X
AN	WO 96/28967	Sep. 26, 1996	PCT(JAPAN)			X
AO						
AP						

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

AR	BOSWORTH, B.T., et al. (1996) "Vaccination With Genetically Modified Shiga-Like Toxin Iie Prevents Edema Disease In Swine." <i>Infect and Immun</i> 64(1): 55-60.
AS	COHNEY, S., et al. (1996) "Molecular Cloning of the Gene Coding for Pig $\alpha 1 \rightarrow 2$ fucosyltransferase." <i>Immunogenet</i> 40: 76-79.
AT	DEVEREUX, J., et al. (1984) "A Comprehensive Set of Sequence Analysis Programs for the VAX." <i>Nucl Acids Res</i> 12(1): 387-395.
AU	FUJII, J., et al. (1991) "Identification of a Mutation in Porcine Ryanodine Receptor Associated with Malignant Hyperthermia." <i>Science</i> 253: 448-451.
AV	GAFFNEY, R.A., et al. (1994) "Effect of Lewis Blood Group Antigen Expression on Bacterial Adherence to COS-1 Cells." <i>Infect and Immun</i> 62(7): 3022-3026.
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AX	KELLY, R.J., et al. (1994) "Molecular Basis for H Blood Group Deficiency in Bombay ( $O_h$ ) and Para-Bombay Individuals." <i>Proc Natl Acad Sci</i> 91: 5843-5847.
AY	MEIJERINK, E., et al. (1997) "Two $\alpha(1,2)$ fucosyltransferase Genes on Porcine Chromosome 6q11 are Closely Linked to the Blood Group Inhibitor (S) and <i>Escherichia coli</i> F18 Receptor (ECF18R) Loci." <i>Mammal Genome</i> 8: 736-741.
AZ	NAGY, B., et al. (1992) "Susceptibility of Porcine Intestine to Pilius-Mediated Adhesion by Some Isolates of Piliated Enterotoxigenic <i>Escherichia coli</i> Increases with Age." <i>Infect and Immun</i> 60(4): 1285-1294.
BA	VÖGELI, P., et al. (1996) "Genes Specifying Receptors for F18 Fimbriated <i>Escherichia coli</i> Causing Oedema Disease and Postweaning Diarrhoea in Pigs. Map to Chromosome 6." <i>Schweiz Arch Tierheilk</i> 139(11): 479-484.
BB	VÖGELI, P., et al. (1997) "Ein Molekular Test für den Nachweis des <i>E. coli</i> -F18-Rezeptors: ein Durchbruch im Kampf gegen Oedemkrankheit und Absetzdurchfall beim Schwein." <i>Schweiz Arch Tierheilk</i> 139(11): 479-484.

Examiner

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Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.